

STANDARD FORM NO. 64

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TO : The Files

DATE: 11 September 1956

FROM :

SUBJECT: Trip and Progress Report, Contract RD-91-SA, Marine Crystal Video

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1. On 14 & 15 August 1956, I visited the [ ] Plant in Philadelphia to determine the status of the Marine Crystal Video program and to confirm the need for a proposal leading to the development of 250 special pre-amplifier units. Those contacted were:

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2. In accordance with an earlier request [ ] has done a certain amount of investigation regarding [ ] for inclusion in the Marine system. Several methods have been tried, but none with any great success, in that the sensitivities were no better than approximately minus 25 to minus 30 dbm. [ ] pointed out the sensitivities were achieved using rather crude laboratory measurements and that the results could probably be increased by optimizing for the particular crystal in service. The [ ] people were quite concerned with the fact that we have not yet approved the over-run cost on the basic project and I again emphasized that we urgently needed the proposal for the [ ] capabilities before we are willing to approve any further project costs. This statement apparently had the desired effect, as they assured me that the proposal for the [ ] would be in our hands in the very near future.

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3. I visited the laboratory where assembly work is underway in producing the first prototype. All of the necessary component boards have been assembled and the technicians are assembling the console cabinet and installing all the necessary cable harnesses.

4. I visited the [ ], to determine the status of the antenna for this system. The work on this is essentially complete. All antennas have been fabricated and associated filters and the calibration system has been installed in the radome housing all this material. The two low frequency antennas covering the range of from 50 to 400 megacycles are still quite large physically. The unit is of an open frame construction with crossed dipoles. The maximum distance from the forward to the rear dial cord is 7 feet. The height of the entire unit is 5 feet and is so

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arranged that the radome housing all of the other antennas, as well as all calibration equipment will fit on top of this frame to make a structure 9 feet high. [ ] has already constructed a turn-table on which this entire unit will be mounted, so that complete system tests can be run. It is expected that these tests will begin sometime early in September.

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5. Back at the [ ] Plant, I discussed the problem of the pre-amplifier units with [ ]. The only parts of our exceptions to which there was any particular question concerned the use of the micro-pin connectors for the transistors and the provision of [ ] capabilities. [ ] pointed out that the [ ] Corporation had used miniature sockets of various configurations for awhile, but in general, had found them unsatisfactory and, therefore, had dispensed with the use of them entirely. He admitted, however, they had not used the micro-pin socket. They agreed to purchase a number of these units and conduct tests upon them. If the results proved to be satisfactory they would consider incorporating these in the pre-amplifier. If they proved to be unsatisfactory from the standpoint of noise generation or mechanical strength, then they would use their regular assembly techniques. The problem of [ ] was discussed at some length. I pointed out that the unit would be virtually useless to us unless it has this capability. [ ] pointed out that some form of a chopper would probably suffice, at some loss of sensitivity and would further be consistent with the size package in which the system is to be mounted. I stressed the urgency in getting such a proposal in to us as the need for such a device is becoming more urgent. I was assured that the proposals would be forwarded to us before the end of the month.

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